



UP50-W

50 mm Ø, 5 mW – 85 W, 100 kW/cm²



KEY FEATURES

1. **MODULAR CONCEPT**
Increase the power capability of your detector:
4 different cooling modules
2. **VERY HIGH DAMAGE THRESHOLD**
100 kW/cm² in average power density
3. **VERY LARGE APERTURE**
50 mm Ø effective aperture, perfect for the largest beams
4. **HIGHEST ENERGY READINGS IN THE SERIES**
Measure single shot energy up to 500 J
5. **SMART INTERFACE**
Containing all the calibration data
6. **integra OPTIONS**
 - Standard: USB Output (-INT)
 - In Option: RS-232 Output (-IDR)

AVAILABLE MODELS



UP50N-40S-W9
(40W-Standalone)



UP50N-50H-W9
(50W-Heatsink)



UP50N-50F-W9
(50W-Fan-Cooled)



UP50M-50W-W9
(50W-Water-Cooled)

ACCESSORIES



Stand with Steel Post
(Model Number: 200234)



Extension Cables
(4, 15, 20 or 25 m)



Fiber Adaptors and Connectors
(FC, SC or SMA)



3-Port Fiber Cylinder with
Adaptors and Plug



12V Power Supply
(Model Number: 200130)



Pelican Carrying Case

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MEASURING HIGH POWER WITH A LOW POWER DETECTOR	202188

UP50-W



*Also traceable to NRC-CNRC

SPECIFICATIONS

	UP50N-40S-W9	UP50N-50H-W9	UP50N-50F-W9	UP50M-50W-W9
MAX AVERAGE POWER (CONTINUOUS / 1 MINUTE)	40 W / 80 W	50 W / 85 W	50 W / 85 W	50 W ¹ / 85 W ¹
EFFECTIVE APERTURE	50 mm Ø	50 mm Ø	50 mm Ø	50 mm Ø
COOLING METHOD	Convection	Heatsink	Fan-Cooled	Water-Cooled
MEASUREMENT CAPABILITY				
Spectral Range *	0.19 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 µm	0.19 – 10.0 µm
Noise Equivalent Power ^a	5 mW	5 mW	5 mW	5 mW
Rise Time (nominal) ^b	3.5 sec	3.5 sec	3.5 sec	3.5 sec
Sensitivity (typ into 100 kΩ load) ^c	0.12 mV/W	0.12 mV/W	0.12 mV/W	0.12 mV/W
Calibration Uncertainty ^d	±2.5 %	±2.5 %	±2.5 %	±2.5 %
Repeatability	±0.5 %	±0.5 %	±0.5 %	±0.5 %
Energy Mode				
Sensitivity	0.02 mV/J	0.02 mV/J	0.02 mV/J	0.02 mV/J
Maximum Measurable Energy ^e	500 J	500 J	500 J	500 J
Noise Equivalent Energy ^a	0.25 J	0.25 J	0.25 J	0.25 J
Minimum Repetition Period	11.1 sec	11.1 sec	11.1 sec	11.1 sec
Maximum Pulse Width	467 ms	467 ms	467 ms	467 ms
Accuracy with energy calibration option	±5 %	±5 %	±5 %	±5 %
DAMAGE THRESHOLDS				
Maximum Average Power Density ^g	100 kW/cm ²	100 kW/cm ²	100 kW/cm ²	100 kW/cm ²
Pulsed Laser Damage Thresholds	Max Energy Density		Peak Power Density	
1064 nm, 150 µs, 5 Hz	100 J/cm ²		667 kW/cm ²	
1064 nm, 7 ns, 10 Hz	1.1 J/cm ²		157 MW/cm ²	
532 nm, 7 ns, 10 Hz	1.1 J/cm ²		157 MW/cm ²	
248 nm, 26 ns, 10 Hz	0.7 J/cm ²		27 MW/cm ²	
PHYSICAL CHARACTERISTICS				
Effective Aperture	50 mm Ø	50 mm Ø	50 mm Ø	50 mm Ø
Absorber (High Damage Threshold)	W9	W9	W9	W9
Dimensions	89H x 89W x 32D mm	89H x 89W x 106D mm	89H x 89W x 116D mm	89H x 89W x 40D mm
Weight (head only)	0.62 g	0.93 g	1.38 g	0.81 g
ORDERING INFORMATION				
Product Name	UP50N-40S-W9-D0	UP50N-50H-W9-D0	UP50N-50F-W9-D0	UP50M-50W-W9-D0
Product Number (without stand)	200893	200884	200894	201886
Add Extension for INTEGRA (USB)	-INT	-INT	-INT	-INT
Product Number (without stand)	203059	203061	203063	203065
Add Extension for INTEGRA (RS-232)	-IDR	-IDR	-IDR	-IDR
Add Extension for BLU	-BLU	-BLU	-BLU	-BLU
Product Number (without stand)	203676	203679	203685	203682

Specifications are subject to change without notice // Compatible stand: P/N 200234

* For the calibrated spectral range, see the user manual.

- a. Nominal value, actual value depends on electrical noise in the measurement system.
 b. With anticipation.
 c. Maximum output voltage = sensitivity x maximum power.
 d. Including linearity with power.

- e. For 360 µs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).
 f. Minimum cooling flow 0.5 liters/min, water temperature ≤ 22°C, 1/8 NPT compression fittings for 1/4 inch semi-rigid tube.
 Contact Gentec-EO for clean deionized water cooling module option.
 g. At 1064 nm, 10 W CW.